

APPENDIX F – Noise Model Printouts





Noise Measurement 1- looking north



Noise Measurement 1- looking northeast



Noise Measurement 1- looking east



Noise Measurement 1- looking southeast



Noise Measurement 1- looking south



Noise Measurement 1- looking southwest



Noise Measurement 1- looking west



Noise Measurement 1- looking northwest



Noise Measurement 2 - looking north



Noise Measurement 2 - looking northeast



Noise Measurement 2 - looking east



Noise Measurement 2 - looking southeast



Noise Measurement 2 - looking south



Noise Measurement 2 - looking southwest



Noise Measurement 2 - looking west



Noise Measurement 2 - looking northwest



Noise Measurement 3 - looking north



Noise Measurement 3 - looking northeast



Noise Measurement 3 - looking east



Noise Measurement 3 - looking southeast



Noise Measurement 3 - looking south



Noise Measurement 3 - looking southwest



Noise Measurement 3 - looking west



Noise Measurement 3 - looking northwest

General Information

Serial Number	02509
Model	831
Firmware Version	2.314
Filename	831_Data.001
User	GT
Job Description	Avalon K-12 Modernization
Location	On North Side of Baseball Field
Measurement Description	
Start Time	Monday, 2019 April 29 09:40:40
Stop Time	Monday, 2019 April 29 09:50:40
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	Monday, 2019 April 29 09:04:32
Post Calibration	None
Calibration Deviation	---

Note

Noise from industrial uses to NW
62 F, 29.67 in Hg, 78% Hu, 2 mph wind, cloudy

Overall Data

LAeq		42.8	dB
LASmax	2019 Apr 29 09:48:24	56.0	dB
LApeak (max)	2019 Apr 29 09:47:09	74.1	dB
LASmin	2019 Apr 29 09:42:31	29.1	dB
LCeq		49.7	dB
LAeq		42.8	dB
LCeq - LAeq		6.9	dB
LAIeq		48.9	dB
LAeq		42.8	dB
LAIeq - LAeq		6.1	dB
Ldn		42.8	dB
LDay 07:00-22:00		42.8	dB
LNight 22:00-07:00		---	dB
Lden		42.8	dB
LDay 07:00-19:00		42.8	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		70.6	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	49.5	dBA
LAS10.00	47.3	dBA
LAS33.30	40.3	dBA
LAS50.00	37.8	dBA
LAS66.60	34.9	dBA
LAS90.00	31.7	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.1	dB
Under Range Peak	75.7	dB
Noise Floor	17.0	dB
Overload	143.3	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	57.8	47.2	43.7	43.5	46.2	34.5	26.0	28.5	39.2	36.2	25.0	13.4
LZSmax	84.1	72.0	60.9	58.6	61.8	50.7	43.4	50.6	54.7	50.8	42.6	24.5
LZSmin	33.9	35.7	35.7	34.4	37.4	26.5	19.6	19.6	18.5	16.6	12.1	12.7

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	56.3	52.9	47.6	45.0	41.5	39.3	37.6	38.6	40.8	38.5	39.8	37.2
LZSmax	81.0	78.5	73.0	69.8	65.5	60.9	59.4	58.1	55.9	54.5	52.8	53.1
LZSmin	26.3	27.1	29.1	28.5	27.9	27.8	27.7	31.2	26.0	26.8	29.4	25.9
Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	42.8	43.5	31.1	31.1	31.3	21.3	19.6	22.2	21.6	23.2	22.2	25.6
LZSmax	59.0	61.7	45.3	52.2	50.6	34.4	38.4	35.8	40.9	43.1	45.6	48.5
LZSmin	16.1	37.0	20.0	22.1	22.5	16.1	14.2	13.0	14.8	15.0	12.9	14.3
Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	25.4	34.7	37.1	34.9	28.8	23.4	24.3	16.2	10.3	8.3	8.8	8.8
LZSmax	45.8	49.6	53.2	50.8	47.2	41.9	40.8	37.8	30.3	23.6	17.2	16.5
LZSmin	13.7	12.1	12.4	12.8	11.2	9.2	7.7	7.1	6.8	7.0	8.1	8.3

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	29 Apr 2019 09:04:32	-25.7
PRM831	07 Feb 2019 12:06:19	-25.3
PRM831	07 Feb 2019 11:34:23	-25.9
PRM831	20 Dec 2018 10:51:31	-26.0
PRM831	17 Dec 2018 14:56:06	-26.1
PRM831	04 Dec 2018 09:35:01	-25.5
PRM831	16 Nov 2018 13:58:18	-25.8
PRM831	24 Oct 2018 13:08:44	-26.1
PRM831	12 Oct 2018 09:55:27	-25.9
PRM831	26 Sep 2018 15:49:25	-26.2
PRM831	21 Sep 2018 08:51:56	-25.6

General Information

Serial Number 02509
Model 831
Firmware Version 2.314
Filename 831_Data.003
User GT
Job Description Avalon K-12 Modernization
Location On North Side of Falls Cyn Rd across from Gymnasium

Measurement Description

Start Time Monday, 2019 April 29 09:58:51
Stop Time Monday, 2019 April 29 10:08:51
Duration 00:10:00.0
Run Time 00:10:00.0
Pause 00:00:00.0
Pre Calibration Monday, 2019 April 29 09:04:32
Post Calibration None
Calibration Deviation ---

Note

Noise from kids during recess getting snacks on north side of Gym Building
62 F, 29.67 in Hg, 78% Hu, 2 mph wind, cloudy

Overall Data

LAeq		57.4	dB
LASmax	2019 Apr 29 10:04:09	78.5	dB
LApeak (max)	2019 Apr 29 10:04:09	92.4	dB
LASmin	2019 Apr 29 09:59:19	41.6	dB
LCeq		59.9	dB
LAeq		57.4	dB
LCeq - LAeq		2.4	dB
LA1eq		63.2	dB
LAeq		57.4	dB
LA1eq - LAeq		5.8	dB
Ldn		57.4	dB
LDay 07:00-22:00		57.4	dB
LNight 22:00-07:00		---	dB
Lden		57.4	dB
LDay 07:00-19:00		57.4	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		85.2	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	61.2	dB
LAS10.00	58.2	dB
LAS33.30	53.3	dB
LAS50.00	51.4	dB
LAS66.60	49.9	dB
LAS90.00	47.4	dB
LAS > 65.0 dB (Exceedence Counts / Duration)	5 / 19.8	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.1	dB
Under Range Peak	75.7	dB
Noise Floor	17.0	dB
Overload	143.3	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	54.6	54.0	52.3	50.9	49.8	48.4	51.3	55.3	49.2	43.5	36.6	25.7
LZSmax	78.5	73.0	72.0	64.7	63.7	65.1	66.0	77.6	69.7	61.1	47.5	37.9
LZSmin	37.7	43.5	45.8	41.4	36.0	33.7	35.7	35.5	32.8	29.9	32.0	18.3

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	51.3	52.0	48.2	47.1	50.6	49.1	48.5	47.7	46.5	44.8	45.7	47.4
LZSmax	73.6	75.5	66.7	65.3	67.4	69.8	70.4	66.2	63.0	60.6	60.0	61.4
LZSmin	29.8	31.1	31.1	34.6	30.7	40.4	42.6	39.9	33.3	33.2	30.6	30.8
Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	46.7	45.3	41.7	41.4	43.2	45.6	45.4	47.0	47.0	48.8	53.3	46.5
LZSmax	62.5	61.5	60.0	59.7	60.7	61.5	61.4	60.5	62.7	68.5	77.1	65.4
LZSmin	25.1	33.2	24.1	24.9	28.2	26.1	29.8	33.9	30.6	29.1	31.0	28.3
Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	44.5	45.7	42.2	40.7	38.7	34.9	33.7	32.0	28.4	24.1	19.3	14.2
LZSmax	62.8	68.4	57.2	57.9	58.1	47.8	46.4	42.4	38.9	36.8	31.5	30.7
LZSmin	28.4	27.5	24.8	24.3	23.4	26.1	28.8	27.5	23.5	15.1	13.4	9.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	29 Apr 2019 09:04:32	-25.7
PRM831	07 Feb 2019 12:06:19	-25.3
PRM831	07 Feb 2019 11:34:23	-25.9
PRM831	20 Dec 2018 10:51:31	-26.0
PRM831	17 Dec 2018 14:56:06	-26.1
PRM831	04 Dec 2018 09:35:01	-25.5
PRM831	16 Nov 2018 13:58:18	-25.8
PRM831	24 Oct 2018 13:08:44	-26.1
PRM831	12 Oct 2018 09:55:27	-25.9
PRM831	26 Sep 2018 15:49:25	-26.2
PRM831	21 Sep 2018 08:51:56	-25.6

General Information

Serial Number 02509
Model 831
Firmware Version 2.314
Filename 831_Data.004
User GT
Job Description Avalon K-12 Modernization
Location On East Side of School, Approx 50 ft West of Avalon Cyn Rd

Measurement Description

Start Time Monday, 2019 April 29 10:13:08
Stop Time Monday, 2019 April 29 10:23:08
Duration 00:10:00.0
Run Time 00:10:00.0
Pause 00:00:00.0
Pre Calibration Monday, 2019 April 29 09:04:32
Post Calibration None
Calibration Deviation ---

Note

Noise from vehicles on Avalon Cyn Rd
62 F, 29.67 in Hg, 82% Hu, 2 mph wind, light rain

Overall Data

LAeq		55.5	dB
LASmax	2019 Apr 29 10:22:20	69.1	dB
LApeak (max)	2019 Apr 29 10:13:11	88.0	dB
LASmin	2019 Apr 29 10:20:29	36.9	dB
LCeq		64.6	dB
LAeq		55.5	dB
LCeq - LAeq		9.2	dB
LA1eq		57.8	dB
LAeq		55.5	dB
LA1eq - LAeq		2.3	dB
Ldn		55.5	dB
LDay 07:00-22:00		55.5	dB
LNight 22:00-07:00		---	dB
Lden		55.5	dB
LDay 07:00-19:00		55.5	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		83.2	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	62.2	dBA
LAS10.00	60.3	dBA
LAS33.30	52.8	dBA
LAS50.00	48.9	dBA
LAS66.60	46.0	dBA
LAS90.00	41.2	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	6 / 13.2	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRM831
Integration Method	Linear
OBA Range	Low
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Gain	+0 dB
Under Range Limit	26.1 dB
Under Range Peak	75.7 dB
Noise Floor	17.0 dB
Overload	143.3 dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	52.7	59.6	59.2	62.2	56.5	53.8	49.8	50.4	49.1	44.3	36.0	29.5
LZSmax	74.5	79.8	76.9	81.2	68.7	68.4	64.8	63.6	63.4	59.2	51.0	46.6
LZSmin	43.0	48.1	48.1	49.4	43.0	36.0	31.5	30.2	28.1	23.7	15.5	13.5

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	51.4	49.9	47.4	52.1	54.6	56.7	53.5	53.5	55.8	60.5	56.1	52.0
LZSmax	74.1	70.7	65.7	75.3	77.3	69.3	73.4	72.4	69.9	81.2	71.2	62.6
LZSmin	35.5	35.1	36.2	35.9	39.5	45.0	39.8	44.2	34.8	39.9	40.6	38.6
Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	53.7	52.0	48.5	48.5	48.8	49.8	45.0	43.9	45.8	45.4	45.8	45.7
LZSmax	67.2	62.4	63.5	62.6	63.2	67.0	62.0	58.6	58.3	60.3	58.4	58.5
LZSmin	38.6	37.8	33.5	32.0	32.0	27.2	26.8	26.1	26.2	26.6	24.4	24.4
Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	44.8	44.4	43.8	42.0	38.8	35.5	32.9	31.5	27.6	24.1	23.3	26.1
LZSmax	58.3	59.0	58.8	56.8	53.8	50.7	47.8	46.5	43.3	40.8	41.1	45.8
LZSmin	22.6	22.3	22.7	20.5	17.9	15.6	12.9	9.7	7.9	7.5	9.7	8.7

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	29 Apr 2019 09:04:32	-25.7
PRM831	07 Feb 2019 12:06:19	-25.3
PRM831	07 Feb 2019 11:34:23	-25.9
PRM831	20 Dec 2018 10:51:31	-26.0
PRM831	17 Dec 2018 14:56:06	-26.1
PRM831	04 Dec 2018 09:35:01	-25.5
PRM831	16 Nov 2018 13:58:18	-25.8
PRM831	24 Oct 2018 13:08:44	-26.1
PRM831	12 Oct 2018 09:55:27	-25.9
PRM831	26 Sep 2018 15:49:25	-26.2
PRM831	21 Sep 2018 08:51:56	-25.6

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 6/9/2019

Case Description: Avalon K-12 School Improvements Project - Phase 1 Hot Spot Removal

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	43	43	43

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	100	0
Backhoe	No	40		77.6	150	0
Backhoe	No	40		77.6	200	0
Front End Loader	No	40		79.1	250	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A
Backhoe	68.0	64.0	N/A	N/A	N/A	N/A
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A
Front End Loader	65.1	61.2	N/A	N/A	N/A	N/A
Total	70	70	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 6/9/2019

Case Description: Avalon K-12 School Improvements Project - Phase 2 Classrooms

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	43	43	43

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	100	0
Backhoe	No	40		77.6	150	0
Front End Loader	No	40		79.1	200	0
Slurry Trenching Machine	No	50		80.4	250	0
Backhoe	No	40		77.6	300	0
Excavator	No	40		80.7	350	0
Dump Truck	No	40		76.5	400	0
Flat Bed Truck	No	40		74.3	450	0
Crane	No	16.0		80.6	500	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A
Backhoe	68.0	64.0	N/A	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A
Slurry Trenching Machine	66.4	63.4	N/A	N/A	N/A	N/A
Backhoe	62.0	58.0	N/A	N/A	N/A	N/A
Excavator	63.8	59.8	N/A	N/A	N/A	N/A
Dump Truck	58.4	54.4	N/A	N/A	N/A	N/A
Flat Bed Truck	55.2	51.2	N/A	N/A	N/A	N/A
Crane	60.6	52.6	N/A	N/A	N/A	N/A
Total	70	71	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 6/9/2019
 Case Description: Avalon K-12 School Improvements Project - Phase 3 Athletic Fields

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	43	43	43

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40		77.6	15	0
Backhoe	No	40		77.6	65	0
Dump Truck	No	40		76.5	115	0
Front End Loader	No	40		79.1	165	0
Slurry Trenching Machine	No	50		80.4	215	0
Backhoe	No	40		77.6	265	0
Excavator	No	40		80.7	315	0
Dump Truck	No	40		76.5	365	0
Flat Bed Truck	No	40		74.3	415	0
Concrete Mixer Truck	No	40		78.8	465	0
Grader	No	40	85		515	0
Gradall	No	40		83.4	565	0
Crane	No	16		80.6	615	0
Generator	No	50		80.6	665	0
Welder / Torch	No	40		74	715	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day Lmax	Leq	Noise Limits (dBA)	
					Day Lmax	Evening Leq
Backhoe	88.0	84.0	N/A	N/A	N/A	N/A
Backhoe	75.3	71.3	N/A	N/A	N/A	N/A
Dump Truck	69.2	65.2	N/A	N/A	N/A	N/A
Front End Loader	68.7	64.8	N/A	N/A	N/A	N/A
Slurry Trenching Machine	67.7	64.7	N/A	N/A	N/A	N/A
Backhoe	63.1	59.1	N/A	N/A	N/A	N/A
Excavator	64.7	60.7	N/A	N/A	N/A	N/A
Dump Truck	59.2	55.2	N/A	N/A	N/A	N/A
Flat Bed Truck	55.9	51.9	N/A	N/A	N/A	N/A
Concrete Mixer Truck	59.4	55.5	N/A	N/A	N/A	N/A
Grader	64.7	60.8	N/A	N/A	N/A	N/A
Gradall	62.3	58.4	N/A	N/A	N/A	N/A
Crane	58.8	50.8	N/A	N/A	N/A	N/A
Generator	58.2	55.1	N/A	N/A	N/A	N/A
Welder / Torch	50.9	46.9	N/A	N/A	N/A	N/A
Total	88	85	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.